

117. Haemodynamic and blood gas effects of polymethylmethacrylate cement during total knee arthroplasty under spinal anesthesia

C.H. Lotis, A. Bonarou, G.M. Minas, E. Garini, A. Bakola, P. Petropoulou
Anesthesiology Department, Papageorgiou General Hospital, Thessaloniki, Greece

Background and Aims: We evaluate the effects of PMMA on patients haemodynamics and blood gasses during total knee arthroplasty.

Methods: 18 patients, aged 50-70 years, ASA I-II, undergoing total knee arthroplasty were studied. PMMA was applied to secure the prosthetic components. Measurements of systemic blood pressure and cardiac output(CO), using continuous CO monitoring were obtained through an arterial radial catheter. Mean arterial pressure (MAP), heart rate (HR), SpO2 and cardiac output (CO) were recorded at 3 minute intervals before and after PMMA implantation. Blood gasses were estimated for PCO2 and PO2 10 min before and 10 min after cementing. Preceding haemodynamic stability was maintained in all patients. Data was analyzed using paired samples t-test.

Results: No statistically significant differences were noted in the values of CO, MAP, pO2, pCO2, and SpO2 before and after PMMA insertion ($p > 0.05$). A statistically significant increase in HR was found at 2, 8, and 10 min.

Conclusion: No significant association between the use of PMMA, haemodynamic stability and blood gasses changes during total knee arthroplasty was found.

	PRO	2 min	4 min	6 min	8 min	10 min
CO	5.34 ±0.65	5.35 ±0.64	5.42 ±0.65	5.49 ±0.62	5.55 ±0.62	5.53 ±0.64
MAP	99.09 ±8.80	100.09 ±9.42	101.27 ±9.18	102.18 ±8.28	102.60 ±9.38	100.3 ±15.37
HR	67.91 ±13.82	70.09 ±13.79	71.18 ±11.43	70.09 ±12.09	68.60 ±12.44	70.10 ±11.85
PO2	141.32 ±29.19					139.83 ±16.68
PCO2	39.28 ±5.83					38.00 ±3.25
						<i>p</i> -, 770(NS) <i>p</i> -, 349(NS)

125. Comparison of two different regimens used for spinal anaesthesia in elderly patients undergoing major orthopedic surgery

K. Spanopoulos, A. Douvantzi, E. Goutziomitrou, E. Dalambini, A. Foulidou, P. Petropoulou
Papageorgiou, Thessaloniki, Greece

The aim of this study was to compare two different regimens (levobupivacaine 15mg versus ropivacaine 25.5mg, both combined with 0.02mg fentanyl) used for spinal anaesthesia in elderly patients undergoing major orthopedic surgery.

Methods: 32 elderly patients planned for knee arthroplasty received intrathecally either 15mg levobupivacaine (3ml, 0.5%) combined with 0.02mg fentanyl (group A, n=15) or 25.5mg ropivacaine (3.4ml, 0.75%) combined also with 0.02mg fentanyl (group B, n=17). We evaluated the patients' haemodynamic status just before and every 5min after administration of the local anesthetic. We also recorded the onset and duration of maximal sensory and motor blockade. For the statistical analysis we used students' t-test, repeated measures analysis of variance and x2-test.

Results: There were no statistically significant differences in the haemodynamic status during anaesthesia between the two groups. Both regimens produced a similar analgesic result (VAS=0-1). Maximal dermatomal sensory block level achieved in group A was T6 (T3,T8) and T5 (T2,T7) in group B ($p = NS$). Time required for the achievement of this block level after administration of the local anaesthetic was 7.5 ± 1.5 min in group A and 9 ± 2.2 min in group B ($p = NS$). Both regimens produced a maximal motor blockade of Bromage score III. Duration of this maximal motor blockade was 158.3 ± 31.2 min in group A and 186.3 ± 29.20 min in group B ($p = 0.024$). Duration of sensory block (VAS \leq 1) was 198.7 ± 33.7 min in group A and 251 ± 44.5 min in group B ($p = 0.03$).

Conclusion: A prolonged sensory and motor blockade was achieved in group B as compared to group A. However, analgesic efficacy during surgery, the degree of motor blockade and the time required for this purpose, as well as patients' haemodynamic stability during anaesthesia were similar between the two groups compared.